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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,699	11/14/2001	Johan Samuel Van Den Brink	NL 000606	7458

24737 7590 10/06/2004

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
VARGAS, DIXOMARA	
ART UNIT	**PAPER NUMBER**
2859	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/992,699	VAN DEN BRINK ET AL.	
	Examiner	Art Unit	
	Dixomara Vargas	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3 and 6-9* is/are rejected.

7)☒ Claim(s) *2,4 and 5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Plewes (US 6,246,895 B1).

With respect to claims 1, 7, 8 and 9, Plewes discloses a magnetic resonance imaging method comprising:

a.) generating magnetic resonance signals, having signal amplitudes and phases, by:

i.) producing a uniform magnetic field, utilizing a main coil system comprising a plurality of main coils to produce said uniform magnetic field (Figure 1, #140);

ii.) generating RF excitation pulses, utilizing a transmission coil to generate said RF excitation pulses, such that said RF excitation pulses excite nuclear spins in an object that is to be imaged, which is residing within said uniform magnetic field;

iii.) terminating said RF excitation pulses to relax said nuclear spins and thereby emit magnetic resonance signals (Figure 1, #152);

b.) generating temporary magnetic gradient fields, utilizing a plurality of gradient coils to generate said temporary magnetic gradient fields (Figure 1, #139);

c.) superposing said temporary magnetic gradient fields on said uniform magnetic field to provide spatial encoding of the magnetic resonance signals being emitted,

d.) receiving said spatially encoded magnetic resonance signals, utilizing a receiving coil (Column 4, lines 38-67);

e.) correcting said signal amplitudes of said spatially encoded magnetic resonance signals, or quantities calculated from said spatially encoded signal amplitudes for deviations based on spatial non-linearities in the magnetic field strength of said temporary magnetic gradient fields, utilizing correction means, to produce corrected magnetic resonance signals (Columns 5 and 7, lines 39-44 and 49-55 respectively); and

f) outputting said corrected magnetic resonance signals, utilizing output means, to form a magnetic resonance image (Abstract).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plewes (US 6,246,895 B1) in view of McKinnon (US 6,078,176).

With respect to claim 3, Plewes discloses the claimed invention as stated above in paragraph 2 except for the step wherein said magnetic resonance signals are diffusion-weighted. However, McKinnon discloses the generation of diffusion-weighted magnetic resonance signals (Abstract) Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use McKinnon's teachings of the diffusion-weighted magnetic resonance signals with Plewes's magnetic resonance imaging method for the purpose of providing information depicting molecular displacements comparable to cell dimensions to obtain physiological information by a conventional imaging modality for example, for making diagnoses of diseases in the brain, infarcts, and for characterizing brain tumors.

6. With respect to claim 6, see rejection of claims 1 and 3 above.

Allowable Subject Matter

7. Claims 2, 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

a. With respect to claim 2, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a MRI method

comprising the steps wherein the step of generating temporary magnetic gradient fields includes applying a temporary current pulse to said gradient coils, and said step of correcting the signal amplitudes of the magnetic resonance signals includes calculating deviations of actual magnetic gradient field from an ideal gradient field using the geometrical shape of the gradient coils and the time profile of the temporary current pulse through the gradient coils in combination with the remaining limitations of the claim 1 above.

b. With respect to claim 4, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a MRI method comprising the step wherein said uniform magnetic field, said temporary magnetic gradient fields and said RF excitation pulses comprise part of a pulse sequence including a preparation section and an imaging section, and said temporary magnetic gradient fields include a bipolar gradient pair in the preparation section in combination with the remaining limitations of the claim 1 above.

c. With respect to claim 5, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a MRI method comprising the step wherein said uniform magnetic field, said temporary magnetic gradient fields and said RF excitation pulses comprise part of a pulse sequence including a preparation section and an imaging section, and said temporary gradient fields include a pair of gradient pulses that have the same polarity and are separated by a refocusing pulse in the preparation section.

Response to Arguments

9. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (571) 272-2252. The examiner can normally be reached on 8:00 am. to 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dixomara Vargas
Art Unit 2859
October 3, 2004

Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800